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Titolo	Geometry of Supersymmetric Gauge Theories [[electronic resource]] : Including an Introduction to BRS Differential Algebras and Anomalies / / by Francois Gieres
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1988
ISBN	3-540-39100-2
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Descrizione fisica	1 online resource (VIII, 191 p.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 302
Disciplina	530.15
Soggetti	Physics Elementary particles (Physics) Quantum field theory Mathematical Methods in Physics Numerical and Computational Physics, Simulation Elementary Particles, Quantum Field Theory
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Nota di contenuto	Contents: The Canonical Geometric Structure of Rigid Superspace and Susy Transformations -- The General Structure of Sym-Theories -- Classical Sym-Theories in the Gauge Real Representation -- BRS-Differential Algebras in Sym-Theories -- Geometry of Extended Supersymmetry -- Appendices: Superspace Conventions and Notations (for N=1, d=4). Complex (and Hermitean) Conjugation in Simple Supersymmetry. Complex Conjugation in N=2 Supersymmetry. Geometric Interpretation of the Canonical Linear Connection on Reductive Homogeneous Spaces. Koszul's Formula (BRS Cohomology). On the Description of Anticommuting Spinors in Ordinary and Supersymmetric Field Theories -- References -- Subject Index.
Sommario/riassunto	This monograph gives a detailed and pedagogical account of the geometry of rigid superspace and supersymmetric Yang-Mills theories. While the core of the text is concerned with the classical theory, the quantization and anomaly problem are briefly discussed following a comprehensive introduction to BRS differential algebras and their field

theoretical applications. Among the treated topics are invariant forms and vector fields on superspace, the matrix-representation of the super-Poincaré group, invariant connections on reductive homogeneous spaces and the supermetric approach. Various aspects of the subject are discussed for the first time in textbook and are consistently presented in a unified geometric formalism. Requiring essentially no background on supersymmetry and only a basic knowledge of differential geometry, this text will serve as a mathematically lucid introduction to supersymmetric gauge theories.
